



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,882	01/30/2004	Sandro Grech	59643.00316	4108

32294 7590 03/01/2006

SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

SHEDRICK, CHARLES TERRELL

ART UNIT PAPER NUMBER

2687

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/766,882	Applicant(s) GRECH ET AL.	
	Examiner Charles Shedrick	Art Unit 2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12/15/2005 have been fully considered but they are not persuasive.

Applicant argues per claim 1 that Parikh does not teach or disclose of simultaneously performing a packet data session establishment procedure with a second communication network while still being attached to the first communication network. However, the examiner respectfully disagrees with the applicant's argument. Beginning with the abstract Parikh describes the that "in such environments, it will be required to support inter technology handoffs (i.e., from one technology to the next technology) of mobile terminals without causing disruption to their ongoing (i.e., currently happening) internet connections (i.e., TCP/IP connections or packet data sessions etc.). Parikh further discloses in section 4.1 that the handoff procedure includes "*sends a Proxy Router Solicitation message (ProxyRtSol) to AR, which in turn sends a Router Solicitation to the PSDN (i.e., see footnote regarding layer 3 IP address) as shown in figure 4. In addition, the mobile terminal arranges to transfer what we call the "bearer context" to the PSDN via the AR. The bearer context contains information required to establish access bearers in the CDMA2000 network for the mobile terminal's ongoing (i.e., currently happening) internet sessions (i.e., plural "sessions", for multiple session, TCP/IP connections, or packet data sessions)*". Parikah further discloses a continuation of the above discussion in section 4.1 describing efforts to make handoffs seamless form one network to another by creating phases (i.e., see phase 1 and phase 2 handoff schemes).

Applicant argues per claim 10 that Parikh does not teach or disclose maintaining an attachment. However, the examiner respectfully disagrees with the applicant's argument.

Art Unit: 2687

Examiner would like to point applicant again to section 3.3 where Parikh discloses the issues regarding spurious handoff and further discloses a solution to the problem wherein handoffs are completed in phases (i.e., one and two) in sections 4, optimization to basic schemes, and smart detection of hot-spot boundary crossing to prevent the “ping pong effect”.

Applicant argues per claim 14 that Parikh does not teach or disclose of simultaneous authentication with a new network while still being connected to a previous network. However, the examiner respectfully disagrees with the applicant’s argument. Along with the information from above Parikh further discloses “ *The PSDN responds to this message using the router advertisement that is forwarded to the mobile terminal via the AR (as the Proxy Router Advertisement or proxyRtAdv). The proxyRtAdv contains among others, challenge (MN-FA challenge extension) for authentication and authorization purposes*”.

Applicant argues per claim 15 that Parikh does not teach or disclose of simultaneously performing a packet data session establishment procedure with a second communication network while still being attached to the first communication network. However, the examiner respectfully disagrees with the applicant’s argument. Beginning with the abstract Parikh describes the that “in such environments, it will be required to support inter technology handoffs (i.e., from one technology to the next technology) of mobile terminals without causing disruption to their ongoing (i.e., currently happening) internet connections (i.e., TCP/IP connections or packet data sessions etc.). Parikh further discloses in section 4.1 that the handoff procedure includes “*sends a Proxy Router Solicitation message (ProxyRtSol) to AR, which in turn sends a Router Solicitation to the PSDN (i.e., see footnote regarding layer 3 IP address) as shown in figure 4. In addition, the mobile terminal arranges to transfer what we call the “bearer context”*

Art Unit: 2687

to the PSDN via the AR. The bearer context contains information required to establish access bearers in the CDMA2000 network for the mobile terminal's ongoing (i.e., currently happening) internet sessions (i.e., plural "sessions", for multiple session, TCP/IP connections, or packet data sessions)". Parikah further discloses a continuation of the above discussion in section 4.1 describing efforts to make handoffs seamless form one network to another by creating phases (i.e., see phase 1 and phase 2 handoff schemes).

Consequently, in view of the above reasons and having addressed each of the Applicant's arguments, the previous rejection is maintained and made FINAL by the examiner.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

2. Claims **1-15** are rejected under 35 U.S.C. 102(a) as being anticipated by **Parikh et al.**
(see **PTO-892 Non-patent Literature section U**)

Consider **claim 1**, Parikh et al. clearly show and disclose the method for ensuring continuity of a communication session when a user equipment hands over from a first communication network (i.e., WLAN) to a second cellular communication network (i.e., CDMA2000) comprising the steps of: performing an authentication procedure for a packet data session with a second communication network while still being attached to a first communication network (**abstract , introduction, section 4.1 and figure 4**), and simultaneously performing a packet data session establishment procedure with the second communication network while still

being attached to the first communication network (**abstract , introduction, section 4.1 and figure 4**).

Consider **claim 2** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, wherein the step of performing the authentication procedure comprises authenticating the second communication network (i.e., the CDMA2000) by a user equipment (i.e., authentication challenge)(**section 4.1 and figure 4**).

Consider **claim 3** and **as applied to claim 2 above**, Parikh et al. clearly show and disclose a method as claimed in claim 2, wherein the step of performing the authentication procedure comprises authenticating the user equipment by the second communication network (i.e., the authentication challenge) (**section 4.1 and figure 4**).

Consider **claim 4** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the step of: providing the first communication network comprising a WLAN network and the second communication network comprising a cellular network (i.e., CDMA2000)(**section 1**).

Consider **claim 5** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, wherein the step of performing the authentication procedure comprises sending information by a user equipment for authentication and packet data session establishment, wherein the information travels either as a separate IP package or is piggybacked with existing signaling (**section 4.1 and figure 4**).

Consider **claim 6** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the step of: configuring a gateway node (i.e., AR)(**figure 4.1**) between the first communication network and the second

Art Unit: 2687

communication network to act as an access router for the first communication network and to host the packet data session in the second communication network (**section 4.1 and figure 4**).

Consider **claim 7** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the step of: releasing a packet data session if a user equipment does not handover to the second cellular communication network within a predetermined time thus requiring the user equipment to repeat the authentication procedure if the user equipment is moving towards the second cellular communication network for a specified time (i.e., a gap in coverage) (**section 4.2.1**).

Consider **claim 8** and **as applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the steps of: (i) sending by a user equipment a handover trigger indication to a gateway node in the second cellular communication network, wherein the handover trigger indication comprises user equipment identification parameters and a packet data protocol profile (**section 4.1 and figure 4**); (ii) sending by a gateway node the user equipment identification parameters and the packet data protocol profile to a serving node in the second cellular communication network (**section 4.1 and figure 4**); (iii) contacting by the serving node a home location register to obtain user equipment authentication parameters (**section 4.1 and figure 4**); (iv) sending by the serving node a packet data protocol profile request to the gateway node (**section 4.1 and figure 4**); (v) responding by sending by the gateway node a packet data protocol profile response to the serving node (**section 4.1 and figure 4**); (vi) sending by the serving node authentication information to the gateway node (**section 4.1 and figure 4**); (vii) sending the gateway node the authentication information to the user

Art Unit: 2687

equipment(**section 4.1 and figure 4**); (viii) authenticating by the user equipment the second cellular communication network(**section 4.1 and figure 4**); (ix) sending by the user equipment a response to the serving node and moving the user equipment into the second cellular communication network(**section 4.1 and figure 4**);

Consider **claim 9** and as **applied to claim 1 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the steps of: (i) sending by a user equipment a handover trigger indication to a gateway node in the second cellular communication network(**section 4.1 and figure 4**); (ii) sending by the gateway node a protocol data unit notification request to a serving node in the second cellular communication network(**section 4.1 and figure 4**); (iii) contacting by the serving node a home location register (i.e., HA) to obtain user equipment authentication parameters(**section 4.1 and figure 4**); (iv) sending by the serving node a proxy authentication and a ciphering request to the gateway node(**section 4.1 and figure 4**); (v) converting by the gateway node authentication information in the ciphering request which is then sent to the user equipment(**section 4.1 and figure 4**); (vi) responding by the user equipment with an authentication message which is sent to the gateway node(**section 4.1 and figure 4**); (vii) converting by the gateway node the authentication message from the user equipment and sending a proxy authentication and a ciphering response to the serving node(**section 4.1 and figure 4**); (viii) sending by the serving node a protocol data unit notification response to the gateway node(**section 4.1 and figure 4, conclusion**); (ix) sending by the serving node a create packet data protocol request to the gateway node(**section 4.1 and figure 4, conclusion**) (i.e., see “network initiated bearer setup”); (x) sending by the gateway node a create packet data protocol response to the serving node(**section 4.1 and figure**

Art Unit: 2687

4, conclusion) (i.e., see “network initiated bearer setup”); and (xi) replying by the gateway node to the handover trigger indication sent by the user equipment by sending a handover trigger response to the user equipment (**section 4.1 and figure 4**).

Consider **claim 10**, Parikh et al. clearly show and disclose a method for ensuring continuity of a communication session, the method comprising: handing over by a user equipment from a first communication network (i.e., WLAN) (**figures 1 and 2**) to a second cellular communication network (IMT-2000 Radio Network) (**figures 1 and 2**), and when the user equipment hands over from the first communication network to the second cellular communication network (**section 4.1 and figure 4**), maintaining an attachment of the user equipment to the second cellular communication network after the user equipment moves away from a coverage area of the second cellular communication network for a predetermined time in order to allow the user equipment to return to the second cellular communication network without having to repeat an authentication procedure and a packet data session establishment procedure before handing over to the second network (i.e., this prevents the spurious handoff triggers) (**sections 3.3- 4.2.1**).

Consider **claim 11** and as **applied to claim 10 above**, Parikh et al. clearly show and disclose a method as claimed in claim 10, further comprising the step of: releasing a packet data session if the user equipment does not handover to the second cellular communication network within the predetermined time thus requiring the user equipment to repeat the authentication procedure if the user equipment is moving towards the second cellular communication network for a specified time (i.e., a gap in coverage and other areas for potential spurious handoff triggers) (**section 4.2.1**).

Consider **claim 12** and **as applied to claim 10 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the steps of: (i) sending by a user equipment a handover trigger indication to a gateway node in the second cellular communication network, wherein the handover trigger indication comprises user equipment identification parameters and a packet data protocol profile (**section 4.1 and figure 4**); (ii) sending by a gateway node the user equipment identification parameters and the packet data protocol profile to a serving node in the second cellular communication network (**section 4.1 and figure 4**); (iii) contacting by the serving node a home location register to obtain user equipment authentication parameters (**section 4.1 and figure 4**); (iv) sending by the serving node a packet data protocol profile request to the gateway node (**section 4.1 and figure 4**); (v) responding by sending by the gateway node a packet data protocol profile response to the serving node(**section 4.1 and figure 4**); (vi) sending by the serving node authentication information to the gateway node(**section 4.1 and figure 4**); (vii) sending the gateway node the authentication information to the user equipment(**section 4.1 and figure 4**); (viii) authenticating by the user equipment the second cellular communication network(**section 4.1 and figure 4**); (ix) sending by the user equipment a response to the serving node and moving the user equipment into the second cellular communication network(**section 4.1 and figure 4**);

Consider **claim 13** and **as applied to claim 10 above**, Parikh et al. clearly show and disclose a method as claimed in claim 1, further comprising the steps of: (i) sending by a user equipment a handover trigger indication to a gateway node in the second cellular communication network(**section 4.1 and figure 4**); (ii) sending by the gateway node a protocol data unit notification request to a serving node in the second cellular communication network(**section 4.1**

Art Unit: 2687

and figure 4); (iii) contacting by the serving node a home location register to obtain user equipment authentication parameters(**section 4.1 and figure 4**); (iv) sending by the serving node a proxy authentication and a ciphering request to the gateway node(**section 4.1 and figure 4**); (v) converting by the gateway node authentication information in the ciphering request which is then sent to the user equipment(**section 4.1 and figure 4**); (vi) responding by the user equipment with an authentication message which is sent to the gateway node(**section 4.1 and figure 4**); (vii) converting by the gateway node the authentication message from the user equipment and sending a proxy authentication and a ciphering response to the serving node(**section 4.1 and figure 4**); (viii) sending by the serving node a protocol data unit notification response to the gateway node(**section 4.1 and figure 4, conclusion**); (ix) sending by the serving node a create packet data protocol request to the gateway node(**section 4.1 and figure 4**) (i.e., see “network initiated bearer setup”); (x) sending by the gateway node a create packet data protocol response to the serving node(**section 4.1 and figure 4, conclusion**) (i.e., see “network initiated bearer setup”); and (xi) replying by the gateway node to the handover trigger indication sent by the user equipment by sending a handover trigger response to the user equipment(**section 4.1 and figure 4**).

Consider **claim 14**, Parikh et al. clearly show and disclose a communication system (**abstract and introduction**) comprising a user equipment, a first communication network and a second cellular communication network, the system being arranged to: enable continuity of a communication session when a user equipment moves from a coverage area of the first communication network to a coverage area of a second cellular communication network (**abstract, introduction, section 4.1 and figure 4**), simultaneously perform an authentication

Art Unit: 2687

procedure for a packet data session with the second cellular communication network and perform a packet data session establishment procedure with the second cellular communication network while the user equipment is still attached to the first communication network(**abstract , introduction, section 4.1 and figure 4.**

Consider **claim 15**, Parikh et al. clearly show and disclose the communication system (**figures 1-4**) for ensuring continuity of a communication session when a user equipment hands over from a first communication network to a second cellular communication network (**abstract and introduction**), the communication system comprising: first performing means for performing an authentication procedure for a packet data session with a second communication network while still being attached to a first communication network(**abstract , introduction, section 4.1 and figure 4**), and second performing means for simultaneously performing a packet data session establishment procedure with the second communication network while still being attached to the first communication network(**abstract , introduction, section 4.1 and figure 4**).

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2687

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Shedrick whose telephone number is (571)-272-8621.

The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid Lester can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Shedrick
AU 2687
February 14, 2006




NICK CORSARO
PRIMARY EXAMINER